

Exhibit 25

PATENT OFFICE LITIGATION

Second Edition

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Pre-publication of Chapter Two



Chapter Two: New Global Patent Landscape

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2:1 The AIA's Impact on Patent Enforcement

The first four years of the new post-grant proceedings created by the American Invents Act (AIA) have had a far greater impact on the United States patent environment than most experts anticipated. The U.S. patent environment is now radically different because the new proceedings allow an accused infringer or any third party to challenge the validity of claims of an issued U.S. patent at the Patent Trial and Appeal Board (PTAB or Board). The PTAB challenge at the United States Patent & Trademark Office (USPTO or Office) results in a substantially higher invalidation rate than comparable challenges in United States District Courts (district court) or the United States International Trade Commission (USITC). While the PTAB proceedings were originally intended to be used in exceptional circumstances against "bad patents," they have become the normative counter attack by accused infringers in U.S. patent litigation. District courts have tended to grant motions to stay in light of PTAB proceedings, which significantly lengthens the patent enforcement timeline. The stay often continues while the contested proceeding is appealed to the United States Court of Appeals for the Federal Circuit (Federal Circuit). The PTAB/Federal Circuit procedure can take 26 to 36 months to complete, which adds significant delay to the already long enforcement process in the courts if the patent owner prevails in the PTAB/Federal Circuit procedure. For example, it is not uncommon for a successful enforcement process to take from five to eight years where, in serial fashion, there is a successful defense by the patent owner in the PTAB/Federal Circuit procedure, followed by a successful district court and Federal Circuit enforcement of the asserted patent. On the other hand, if the patent owner loses claims instituted by the PTAB in the PTAB/Federal Circuit procedure, then the process is over for the patent owner for those instituted claims. Once the instituted claims are found unpatentable in the PTAB proceeding, the claims are invalid for any proceeding in the courts or the USITC, even if they had previously been found valid by these tribunals. In other words, the patent owner has to win all patentability and validity challenges of the claims to be successful, which becomes problematic because often more than one PTAB proceeding is brought by challengers to the patent.

The practical result of this change is that successful U.S. patent enforcement has become more difficult, time-consuming, expensive, and labor-intensive, while becoming far less certain and predictable. This PTAB procedure has had an enormous ripple effect on district court litigation in all areas of technology and for all types of patent owners. It is producing a drop in patent suits being filed, particularly in the electronic arts, and is credited by the defense bar for substantially curtailing the so-called "patent troll," which was a major impetus for the defense bar to drive enactment of PTAB provisions in the AIA.

Other types of patent owners outside of the electronic arts did not contemplate the PTAB proceedings being used against their patents. Instead, they assumed the proceedings would be used predominantly, if not exclusively, against "bad electronic patents," whatever that means. But these assumptions proved incorrect, and proceedings have been brought against some of the

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most valuable patents in all areas of technology and owned by all types and sizes of patent owners. The broad application of the PTAB proceedings have produced profound effects on the ability of patent owners to enforce, license, and monetize their patents. And these effects are continuing to ripple through the U.S. patent landscape and will continue to do so for years to come.

2:2 AIA Proceedings

This is the second edition of this book. The first edition was published immediately after the PTAB proceedings became effective on September 16, 2012 and was the first, and many consider definitive, treatment of the new PTAB proceedings and their interface with the courts, USITC, USPTO examination, and foreign jurisdictions. It was enormously influential and shaped the new PTAB world in many ways. It made many predictions that came true, some that did not, and provoked extensive discussion and debate in all parts of the global patent community.

So much has happened in the four years since the publication of the first edition. Over 5,000 PTAB proceedings have been filed, with the current rate being around 150 each month, more than four times what was predicted when the AIA was enacted. Many of the most valuable patents in play in the U.S. have been found to have unpatentable claims in these proceedings. About half of the PTAB's final written decisions are subsequently appealed to the Federal Circuit, further extending the timeline for resolution of a PTAB proceeding. The risk of these proceedings to patent owners is substantial, since the Board institutes trial for more than 60% of challenged claims, and finds more than 80% of instituted claims unpatentable. Often more than one proceeding is filed against the same patent claim, either by multiple challengers but sometimes the same challenger -- so it is a constant battle for patent owners to try to maintain the validity of their most valuable patent claims. Additionally, the district courts typically defer to the PTAB for a ruling on the patentability of the challenged claims by staying the district court case until the PTAB proceeding has been completed through appeal to the Federal Circuit. The business and financial consequences of these proceedings have often been enormous to patent owners and their business models and stakeholders. Finally, the public's understanding of what these proceedings have wrought on the U.S. patent environment is very limited and often based on outdated assumptions and information.

The time has come for a complete reassessment of this enormously complex, changing, and subtle area of U.S. patent law. This second edition does a complete reassessment of what has happened, what is predicted to happen, and the many nuances and issues that these proceedings have on the U.S. patent system and the larger U.S. innovation landscape.

Chapter 1 illuminates how we have organized this second edition. It discusses how we have assembled a team of over 70 authors, half of whom are partners in our firm Sterne, Kessler, Goldstein & Fox, PLLC. Our firm is based in Washington, DC, close to the headquarters of the USPTO, the Federal Circuit, and the USITC. This author team collectively has handled over 550 proceedings, more than any legal firm in the world. That experience comes from representing both petitioners and patent owners at the PTAB and on appeal at the Federal Circuit. Many of the authors of this book are full-time practitioners in these proceedings, giving them background

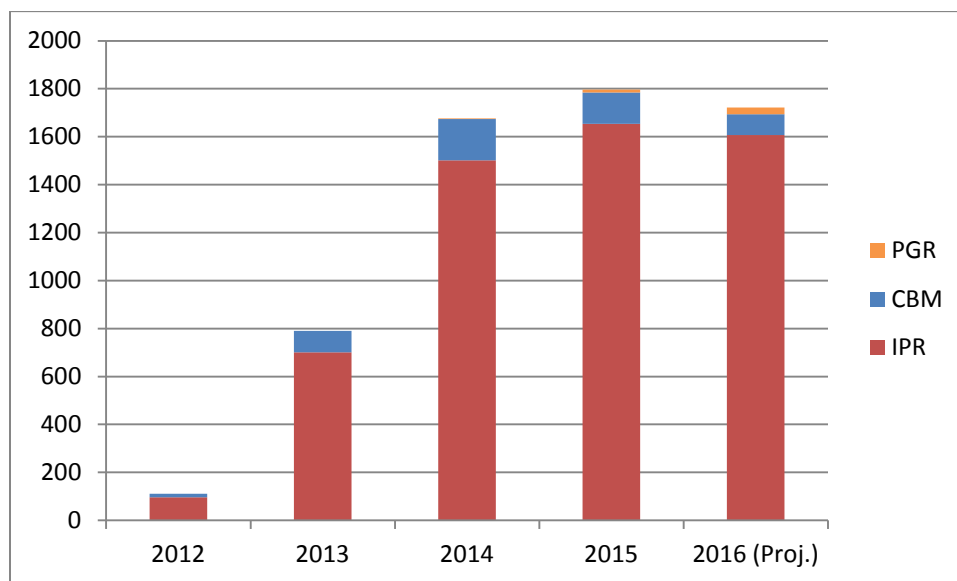
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information, analysis, and insights that one cannot glean from merely reading statutes, regulations, and decisions. This second edition of Patent Office Litigation shares our team's hard-earned, street-smart insight.

There are three main types of PTAB proceedings: inter partes review (IPR), covered business method proceeding (CBM), and post grant review (PGR). In addition, there are derivation proceedings, supplemental examination, ex parte reexamination, and legacy interference and inter partes reexamination --- all treated in chapters in this book.

So a good place to start is the number of filings of the IPRs, CBMs, and PGRs. The assumption when the AIA was being drafted was that there would be about the same number of these new proceedings filed each month as there were of the then inter partes reexaminations – 30 – with the potential for the Office to cap the proceedings at 400 for each of the first three years. The number of filings quickly exceeded 400 a year, and the Office prudently did not invoke the cap but accepted all petitions filed that met the just-promulgated rules and regulations.

The following bar chart shows the number of proceedings filed each calendar year since September 16, 2012, with the IPRs shown in red, the CBMs in blue, and the small number of PGRs as faint lines of orange. The number of petition filings grew to around 150 per month by mid-2014. After a dip in filings in late-2015 and early-2016, the number of petitions filed each month has rebounded to the 150-per-month range.

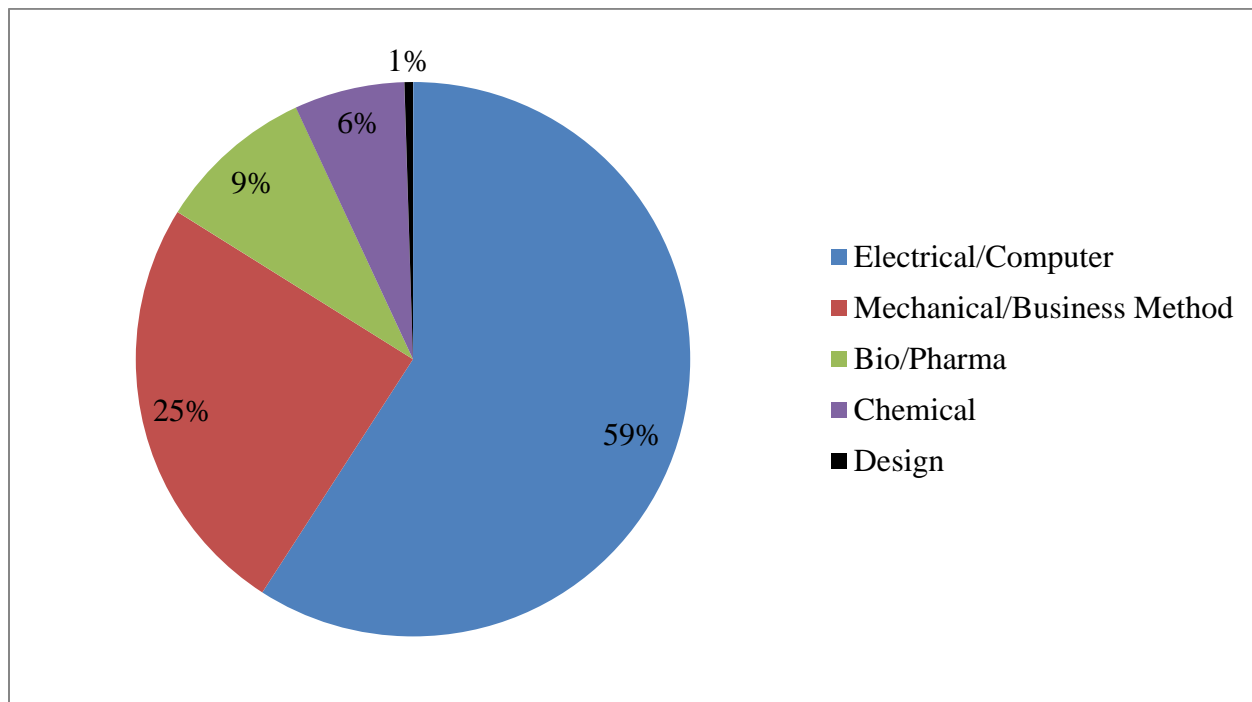


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The following table shows the number of derivation proceedings, supplemental examinations, ex parte reexaminations, and legacy inter partes reexaminations filed for the years 2012 to 2016.

	Der.	Suppl. Ex.	XPReX.	IPReX.
2012	0	5	693	563
2013	4	26	352	n/a
2014	1	32	306	n/a
2015	2	46	253	n/a
2016 (Through Oct.)	1	31	187	n/a

The distribution of the IPR proceedings over technology is of particular interest. It was originally contemplated when the AIA was drafted that the bulk of the proceedings would be in electronics, where the so-called “bad patents” were. It was not contemplated by many patent experts that the proceedings would find any traction in other areas of technology, such as biotechnology or pharmaceuticals. This assumption was incorrect, as the breakdown of the IPR proceedings according to technology shown below indicates:



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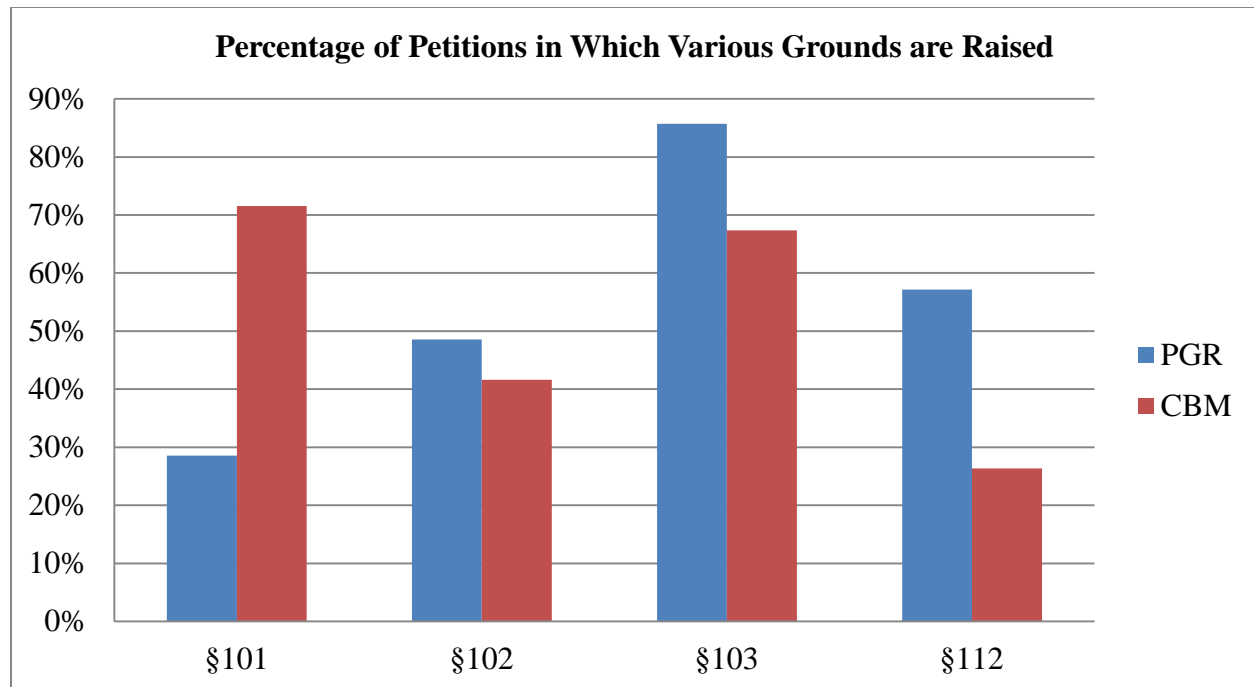
The chart below shows the timing and standing requirements for IPR, CBM, and PGR proceedings.

Inter Partes Review	Post Grant Review/ Covered Business Method Review
<ul style="list-style-type: none"> • Patents and printed publications • Anticipation and Obviousness 	<ul style="list-style-type: none"> • Any patentability challenge except best mode under 35 U.S.C. §282
<ul style="list-style-type: none"> • Before filing declaratory judgment of invalidity • Within year of being served with a complaint in a district court alleging infringement 	<ul style="list-style-type: none"> • PGR- within 9 months for FITF • CBM – anytime, but must be subject of litigation or threat of litigation AND eligible subject matter

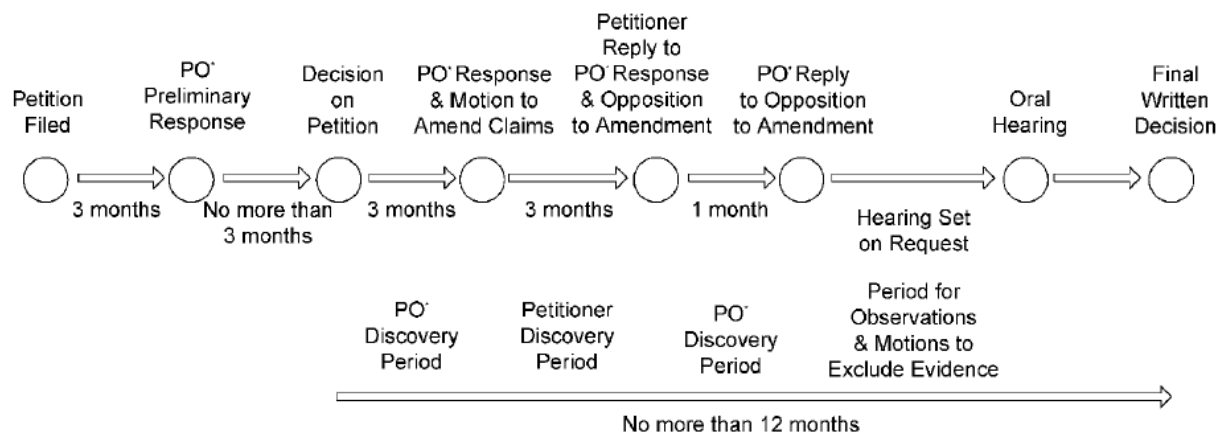
The CBM is directed to patents having financial services aspects. In order for a patent to be susceptible to CBM review, it must be directed to a method or corresponding apparatus for performing “data processing or other operations used in the practice, administration, or management of a financial product or service.” AIA, § 18. This definition has been interpreted broadly by the PTAB, and exceeds what many experts thought when the AIA was passed. The technological exception, which excludes patents for technological inventions from CBM eligibility, carves out patents from the CBM proceeding that satisfy this test. It is fair to say that any patent susceptible to CBM review is considered in the present patent environment to be of diminished value because of a possible finding of unpatentability by the PTAB or invalidation by the courts.

As indicated above, the IPR review is limited to prior art issues involving patents and printed publications. In contrast, the CBMs and PGRs permit challenges under all grounds except best mode under 35 U.S.C. §282. One of the available challenges is statutory subject matter under 35 U.S.C. §101. Recent United States Supreme Court (Supreme Court) decisions¹ have made statutory subject matter challenges very popular for defendants as a defense in district court cases, and for Petitioners in CBMs and PGRs. A breakdown of the grounds of challenge in CBMs and PGRs is as follows:

¹ *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 134 S.Ct. 2347 (2014); *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. 1289 (2012); *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S.Ct. 2107 (2013).



By statute, the trial portion of the proceedings must be completed by a final written decision within one year of the date of institution of trial. In setting up the process, the PTAB provided for a six month pre-institution phase before the institution decision. In the PTAB Trial Practice Guide, the following flow chart is provided which shows the pre-institution and the trial phase in detail:



* PO = Patent Owner

Typically these proceedings are filed by a party being requested for license, threatened with suit, or sued by the patent owner. But in the case of IPRs and PGRs, anyone has standing to bring one of these proceedings, even if there is no litigation or even a threat of litigation. In fact, this has created a new strategy of filing or threatening to file a proceeding to drive business objectives, such as reducing the market cap or valuation of the patent owner, short selling of the stock of the patent owner, or obtaining a settlement to have the proceedings go away. Some have

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named this strategy the “PTAB troll,” a contrasting comparison to the business model of a non-practicing entity (often labeled a “patent troll”) in the district courts that seeks settlements and damage awards for patent infringement. While these PTAB strategies have invoked outcry from certain parts of the patent community, others have supported it as a legitimate use of these proceedings to remove invalid patents that thwart competition and increase prices.

These proceedings are an administrative process before a three administrative patent judge (APJ) panel at the PTAB. The proceedings are essentially done on the papers with no live testimony before the APJ panel. There is a pre-trial phase at the beginning as shown in the flow chart above. If the proceeding is instituted for trial, by statute the trial must be completed with a final written decision (FWD) within one year (eighteen months in exceptional circumstances). But if one or more trials are joined, the one year requirement is removed.

The “trial” is really a misnomer because it is more akin to an administrative process with several stages of pleadings and depositions of experts and sometimes fact witnesses, culminating with a very short oral hearing before the APJ panel that forms the basis of the final written decision issued by the Board. The evidence in the proceedings comes in through the exhibits, the expert and fact witness reports, and the depositions of these individuals offering testimony. The depositions are akin to cross-examination in district court. There is little discovery in these proceedings, and the depositions are not for discovery, but rather for examination of the evidence being proffered by each side. The final oral hearing is typically 30 to 60 minutes per side, is transcribed, becomes part of the record of the patent, and is the final, (and sometimes the first), time the APJs can ask questions of the attorneys about the evidence and arguments in the proceeding.

The architecture of the proceeding is one that is intended to winnow and distill down the issues from the filed petition either to a decision not to institute the trial, or if trial is instituted, then to evaluate the grounds of unpatentability that are ordered for trial for each challenged claim. The challenger who files the petition has the burden of proof throughout the proceeding. It is intended that the petition defines the scope and content of the challenges, and based on what is instituted for trial by the Board, that the issues and evidence be winnowed down so that by the oral hearing they are few and focused. In practice, this is sometimes distorted by a petitioner introducing new evidence through a reply that is allowed before the oral hearing, which essentially deprives the patent owner of the opportunity to effectively respond. And problems can arise when a party introduces new evidence or an argument that goes beyond the record at the oral hearing. Moreover, there are strict word limits for documents, which can make it difficult to fully develop and brief certain issues. The rules and the Board strictly limit the filing of additional motions throughout the trial, and require the parties to meet and confer before seeking authorization in a telephonic mini-hearing on a call with the Board panel to file the motion. The Board may not grant the request for the Board call or refuse to authorize the motion on or after the call. And there is no opportunity for a party to provide a technical tutorial to the APJs at the beginning of the proceeding or answer any oral questions until the oral hearing.

The criticality of the petition that begins the proceeding cannot be over emphasized. The petition is a notice pleading. It requires the evidence and argument that the petitioner is

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advancing in the challenge be fully set forth for each ground of unpatentability of each challenged claim in the patent being tested. The petition typically includes a declaration from an expert who provides the evidence (analysis and argument) that is used in the petition to support the grounds. The petition is intended to define and develop the full contours of the challenge since the Board is acting as a judge of the challenges and not as “super” examiners as they were in the predecessor inter partes reexaminations. Since the petitioner has the burden of proving unpatentability throughout the proceeding, it is critical that the petition fully set forth the challenges and it should not be assumed that additional evidence and argument can be presented later.

The patent owner typically has three months from when the petition is accorded a filing date to challenge the petition and seek non-institution of the proceedings. This challenge to avoid institution is in the form of a filing titled “patent owner preliminary response” (POPR). The rules now allow for a declaration or other evidence to be filed with the POPR, but often this option is not used because it is believed that it can make it likelier for the Board to institute trial, because the POPR declaration triggers a factual dispute. Whether the Petitioner can file a Reply to such declaration or take the deposition of the declarant is uncertain at the time of publication of this book. Time will tell if this new POPR declaration option becomes the norm and not the current exception.

Often the patent owner’s best chance of winning is to have trial not instituted on any ground for any challenged claim. The POPR is the tool to achieve this goal. Savvy patent owners put great effort in crafting the POPR with this goal in mind. The Board more often than not institutes trial on at least one ground for each challenged claim. The Office statistics for the institution rates for IPRs, CBMs, and PGRs are as follows:

	Institution of Trial (% of Petitions Decided)	Challenged Claim Institution Percentage
IPR	71%	62%
CBM	68%	63%
PGR	63%	61%

Under the Rules, the Board decides whether to institute trial within six months of the filing date of the petition or three months from filing of a POPR. The institution decision is a detailed document from the Board that analyzes each ground for each challenged claim. This often requires the Board to make an initial claim construction under the BRI standard (broadest reasonable interpretation in light of the patent specification), and use it to make an initial finding of whether the burden of proof for institution has been met for that ground. The statute provides that, “The Director may not authorize an inter partes review to be instituted unless the Director determines that...there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”² The burden for CBMs and PGRs is similar,

² 35 U.S.C. § 314(a)

but relies on a “more likely than not” standard instead of the “reasonable likelihood” standard in IPRs.³ Many believe as a practical matter that these two burdens are essentially the same, but the intent was to impose a higher burden for CBMs and PGRs.

If trial is instituted, the Board issues a scheduling order that sets forth the due dates of the trial. The first five due dates can be moved by the parties through a meet and confer, but the sixth and seventh due dates, such as the oral hearing date, are immovable unless the Board grants permission. It is critical for a party to seek such a rescheduling of the final dates as early as possible since the Board is loath to move these dates for any reason, which often comes as a big surprise to many who do not typically practice before the Board. A representative scheduling order appendix is reproduced below⁴:

INITIAL CONFERENCE CALL.....	Upon Request
ADR STATEMENT DUE.....	November 8, 2016
DUE DATE 1.....	November 22, 2016
Patent owner’s response to the petition	
Patent owner’s motion to amend the patent	
DUE DATE 2.....	January 31, 2017
Petitioner’s reply to patent owner’s response to the petition	
Petitioner’s opposition to motion to amend	
DUE DATE 3.....	March 3, 2017
Patent owner’s reply to petitioner’s opposition to motion to amend	
DUE DATE 4.....	March 24, 2017
Motion for observation regarding cross-examination of reply witness	
Motion to exclude evidence	
Request for oral argument	
DUE DATE 5.....	April 7, 2017
Response to observation	
Opposition to motion to exclude	
DUE DATE 6.....	April 14, 2017
Reply to opposition to motion to exclude	
DUE DATE 7.....	April 27, 2017
Oral argument (if requested)	

As the flow chart and the scheduling order above show, there is a Patent Owner “discovery” period after institution, which typically lasts two to three months. This period allows the Patent Owner to take the deposition of the expert and any fact declarant of the petitioner who filed a declaration that is referenced in the Petition before the Patent Owner files its Patent Owner Response (POR). Since the POPR is not part of the record of the trial, the Patent Owner must make sure it sets forth all its evidence and arguments to refute each of the instituted grounds. The Patent Owner typically provides its evidence in the POR with

³ 35 U.S.C. § 324(a)

⁴ *RealTime Data LLC v. Oracle Int’l Corp.*, IPR2016-00695, Paper 9, Sept. 13, 2016

declarations from one or more experts and perhaps a fact witness. Only the written testimony in the declarations (reports) from the expert and any fact witness constitute evidence because the analysis set forth in the POR itself is considered attorney argument. There is a word limit on the POR but not on the declarations (which have been more than 100 pages in some proceedings).

As the flow chart shows, there is an option available to the Patent Owner to amend claims with the POR. This right of amendment is set forth in the AIA. However, as interpreted by the Office, this amendment option is very rarely utilized based on the proofs that have to be provided and the limited number of words allowed in the amendment document. As explained elsewhere, the option to amend claims is often to use different proceedings in the Office, such as reissue, ex parte reexamination, or continuation practice.

The next stage in the proceeding, which typically is two to three months long, is the Petitioner discovery period. The Petitioner is allowed to take the deposition of any declarant of Patent Owner. After that, the Petitioner is permitted to file a Petitioner Reply that can include a declaration from an expert or fact witness. The declaration can be from a declarant who is different from the declarant that provided the declaration that accompanied the petition. The scope of the Reply cannot under the rules exceed the record that has been created in the proceedings. But a trend that is occurring is for the Petitioner to expand the scope by introducing evidence and argument in the Reply that exceeds the scope. This puts the Patent Owner in a position of not having a way to defend against this new evidence and arguably constitutes a denial of due process under the Administrative Procedures Act (AIA).⁵

In addition to the Reply, the Petitioner is permitted to file an Opposition to Amendment, if the Patent Owner has filed the Motion to Amend Claims. Since amendment of claims, as previously noted, is so seldom sought, such Oppositions have seldom been filed.

What then follows is a second Patent Owner discovery period, which typically lasts one month. The Patent Owner is allowed to take the deposition of any declarant who filed a declaration that accompanied the Petitioner Reply. But the Patent Owner is not permitted to provide additional evidence through documents or a declaration to rebut evidence provided by the declarant in the Petitioner Reply. This is considered to disadvantage the Patent Owner in many proceedings and raises due process questions.

If the Patent Owner has filed a Motion to Amend Claims, and the Petitioner has responded with an Opposition to Amendment, the Patent Owner is allowed to file a Reply to Opposition to Amendment during this second Patent Owner discovery period.

The next step in the proceeding is the period for observations and motions to exclude evidence. The rules permit very limited written observations about the new evidence submitted with the Reply. Many find this limitation on observations excessive and prevents them from adequately explaining in the record the full nature of the defect in the Reply evidence. With

⁵ 5 U.S.C. § 706(2)(A-D).

regard to excluding evidence, rarely does the Board exclude. Rather, it liberally allows evidence in and uses the weighing of the evidence as the check.

After the completion of this observation and motion to exclude evidence period, the proceeding moves to the oral hearing stage. Before the oral hearing, the parties may need to meet and confer about any demonstratives that they may use in the oral hearing. Most panels require that the demonstratives be submitted to them on the day of the oral hearing so that they can review them by the time of the oral hearing. The rules specify that the demonstratives cannot raise evidence or argument that is outside the scope of the record, but often this becomes an issue of contention. Some panels indicate in either the scheduling order or otherwise that they will not consider the demonstratives part of the record and will not use them to prepare or support the Final Written Decision (FWD). One PTAB expert has publically stated in conferences that he never uses demonstratives because he believes they are a distraction to the proceeding and do not assist the panel. Others, however, say that the demonstratives serve an important service to the panel by focusing and summarizing the dispositive evidence and arguments.

The final oral hearing is the last event in the proceeding before the panel issues the FWD. The date of the oral hearing is specified in the scheduling order, and it is almost impossible for parties to move the date/time unless done so at the very beginning of the proceeding. But the Board has sua sponte moved the date if no motion to amend has been filed. Regarding the parties, this refusal to move the oral hearing date/time has occurred in situations where lead counsel has developed a scheduling conflict with another court or tribunal or has had a death in the family. The position taken by the PTAB in not moving the date/time is that because of the number of proceedings, there are no other open time slots and that there are back-up counsel who can argue, but this is little solace to the client who has selected lead counsel with the expectation that she or he will argue the case. The primary locations used for the oral hearing are Hearings Rooms A, B, C, and D, in the Madison Building at USPTO Headquarters in Alexandria, VA. But some recent oral hearings have been physically located at the new USPTO satellite offices in Detroit, Dallas, Denver, and Silicon Valley (our firm was the first to argue in Detroit and Dallas and one of the first few in Silicon Valley).

The final oral hearing is typically 30 to 60 minutes for each side. The panels are typically fairly strict about the times, especially if there is another oral hearing scheduled to be heard in the same hearing room. But there have been some proceedings where the panel goes appreciably longer than scheduled because one or more APJ has questions that have not been fully answered. This can occur with claim construction, for example. If the panel does extend the time for one side, the lead judge ordinarily will allow the other side comparable time.

Since the Petitioner has the burden of proof throughout the proceeding, it goes first. The panel at the beginning asks Petitioner counsel if she wants to reserve any time for rebuttal. Typically, 5 to 10 minutes is reserved. But some Petitioners reserve most of the time and present their case on rebuttal, which eliminates the ability of the Patent Owner to respond to Petitioner's points. Patent Owner does not have any option for rebuttal, which can create major due process issues if Petitioner counsel raises new evidence or argument or mischaracterizes the record in the Petitioner rebuttal. In some rare situations where this has occurred, Patent Owner counsel has

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stood up after Petitioner counsel has closed his rebuttal and asked for very limited time to correct the record. The panel has allowed the Patent Owner 2 minutes of additional time but has also allowed Petitioner counsel 2 minutes to respond to the Patent Owner counsel. This typically does not allow enough time to preserve the record, and many panels will not allow this Patent Owner rebuttal to occur at all. The Federal Circuit is beginning to appreciate this Petitioner tactic of impermissibly expanding the scope of the record in the Reply or in the oral hearing where for the first time Petitioner introduces significant new evidence or argument. This tactic, referred to by some as “sandbagging,” arguably deprives the Patent Owner of due process under the APA.⁶ It is critical throughout the proceeding that Patent Owner preserve the APA due process issues for appeal so as not to waive them at the Federal Circuit⁷.

In the initial wave of oral hearings in 2014, the satellite offices had not been set up with hearing rooms and in most cases all three APJs were physically present in the hearing rooms at the Madison Building at USPTO HQ. This has changed. Now it is not uncommon to have one or even two of the APJs brought into the hearing room by video link regardless of which USPTO location the actual hearing is taking place in. This creates logistical difficulty for counsel that are arguing. If demonstratives have been provided to the panel before the hearing, it can be expected that the judges that are remote will have them on their computer. However, many counsel use an Elmo or an AV projection system in the hearing, which allows them to go to any part of the record in real time as they make their argument. The remote judges will be not able to see what these real-time AV systems are projecting to the judge in the hearing room. Counsel using such an approach must make sure that she explains to the remote judges what is being projected. And even if demonstratives are being used, it is critical that counsel make sure to indicate on the record exactly what is being referred to at each point in the oral hearing since the transcript of the oral hearing is part of the record of the patent and for any appeal to the Federal Circuit or APA action to the district court.

As indicated previously, there is no live testimony from experts or fact declarants at the oral hearing. The only testimony from these witnesses are the depositions that precede the oral hearing. In the first proceedings, it was not uncommon for counsel to conduct video depositions under the assumption that the panel judges would want to assess the credibility of the witness on critical issues. This did not prove to be correct because judges frequently indicated that they had no interest in looking at the video depositions. This disturbs some in the bench and bar because the proceedings in many respects are a battle of the experts. District court judges at conferences have commented on the criticality of live testimony of experts in open court to assess credibility surrounding testimony of key facts and opinions. But the PTAB is unyielding, claiming that they could not meet the statutory deadline of one year if they had live testimony or took the time to view video depositions.

⁶ *In re NuVasive, Inc.*, --- F.3d ---, 2016 WL 6608999 (Fed. Cir., Nov. 9, 2016); *Dell Inc. v. Acceleron, LLC*, 818 F.3d 1293 (Fed. Cir. 2016).

⁷ *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064 (Fed. Cir. 2015).

It is clear from questions at oral hearings that in most proceedings at least one if not two of the judges have studied the record and are very familiar with those portions of it that they think are dispositive. Counsel must know the record cold in all respects. There have been some very embarrassing oral hearings where counsel clearly did not know the record completely or did not know how to present it. Extensive preparation in mastering the record and the issues and arguments in the proceedings is required for any counsel arguing. Some district court counsel experienced in jury cases have attempted to use similar presentation approaches in these proceedings, but almost universally this approach has fallen flat. The effective approach is to have full mastery of the record and be ready and able to answer the judges' questions with full answers and references to the record.

So what is the importance of the oral hearing? It seems to depend on the panel. Some panels are very "hot," with all three judges asking questions of each side. And the questions are often excellent and show deep understanding of the record and the dispositive issues in the case. Counsel in such situations believe that their oral presentations have turned the decision to their side. And FWDs in these cases often suggest that this is correct. In other situations, the oral argument is extensive and counsel have fully explained their positions and evidence only to see a FWD that seems devoid of anything from the oral hearing. Based on the FWD, it is as if the panel had decided the case before the oral hearing and only went through the motions in the oral hearing. In fact, in a recent CLE, one very experienced APJ stated that in most cases the oral hearing is of little importance because the panel is deciding the proceeding on the written record and has little use for the oral hearing. And other APJs in conferences have stated that the panels meet throughout the proceeding and have a deep understanding of what is in the record and what the issues and arguments are. So if the panel is deciding the case on the written record with no live testimony, technology tutorial, or ability to ask the declarants questions, it is understandable that many Patent Owners are somewhat cynical that their challenged patent is getting fairly treated. And the fact that the same panel that made the institution decision is the one that renders the FWD raises additional concerns on the Patent Owner side. The Petitioner side counters that the APJs are from the expert administrative agency that issues U.S. patents, are independent of the patent examiners doing the original prosecution that produced the issued patent, and are highly experienced in technology and patent law. Like many critical issues in this new patent environment, one's perspective is often colored by the side of the dispute ("side of the v") one is on.

So how are patent owners doing in these challenges? There have been over 1,300 final written decisions (FWD) in IPRs, CBMs, and PGRs as of September 30, 2016. In the aggregate, the win/loss record for U.S. patents over all of these FWDs is as follows:

	IPR	CBM	PGR
Claims Cancelled	13140	2031	61
Claims Patentable in FWD	3519	73	0
Inst. Cl. Cancellation %	79%	97%	100%

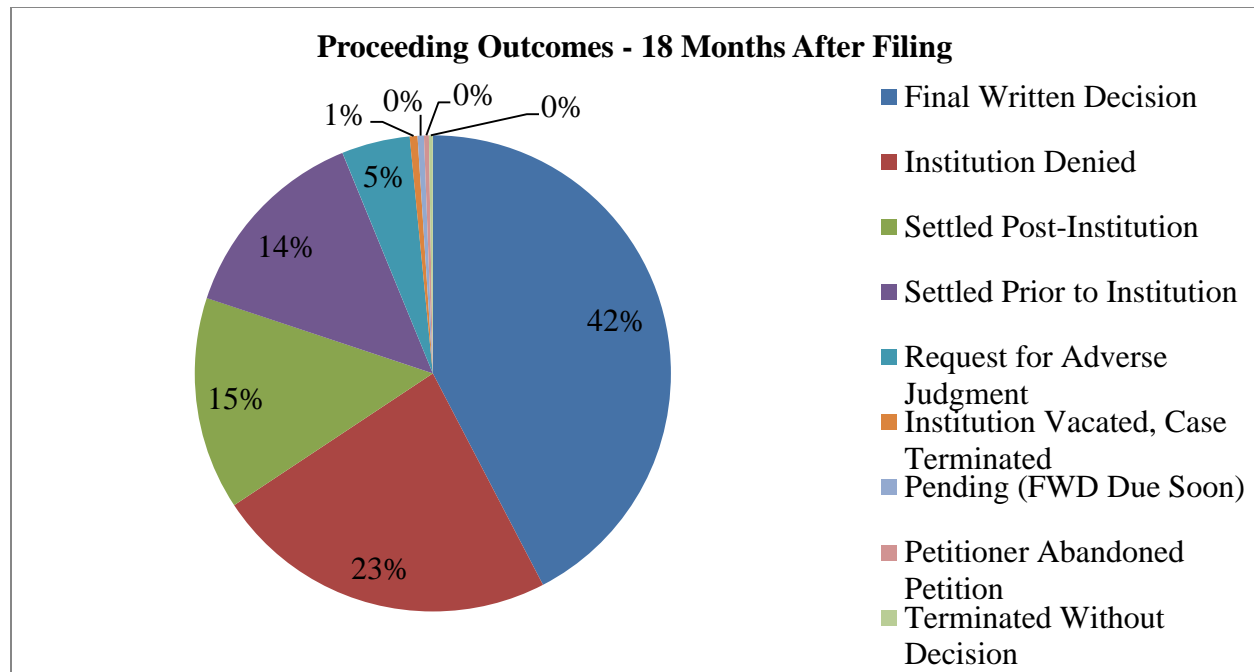
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The rules provide for settlement of the proceedings by the parties subject to approval from the Board. Settlement can occur in the pre-institution phase after filing of the petition, or after the institution decision up to the final written decision (FWD). The settlement must be filed with the Board, and is part of the confidential USPTO proceeding record and will be disclosed to a private third party only under a sufficient showing of good cause. There have been very few settlements that have been disclosed under this requirement. The rule of thumb is that a settlement filed before the institution decision will in most circumstances be allowed by the PTAB to terminate the proceeding, whereas after institution and closer to the oral hearing and the FWD, the Board will be less likely to allow the settlement to terminate the proceeding.

The Office views a settlement as a win for the patent owner. And in their statistics they reflect this assumption. The assumption is predicated on the idea that the Patent Owner would only settle if the Petitioner believed in the probable patentability of the challenged claims in the proceeding. But in practice this often is not the case. Often the settlement is a concession that patentability may not be found or that the cost of defending the proceeding or the time required is too much for the Patent Owner. This is the situation of many Patent Owners, especially small entities, universities, and enforcement programs being done on contingency. And the petitioner bar knows this reality well. In fact, one tactic used by petitioners is to approach the Patent Owner before filing the petition and leverage forbearance of filing of proceedings for settlement of the entire dispute. This avoids the filing of the petition before a global settlement; once the petition is filed, it is part of the public record of the patent, even if a later settlement of the proceeding is permitted by the Board. Such a filed petition puts a cloud over the patentability of the claims and creates a roadmap for a later challenger. Some have named this strategy the “pocket IPR, CBM, or PGR,” akin to a “pocket complaint” in district court litigation.

The breakdown of the outcomes of these Board proceedings, including settlements, non-institution, and FWDs, is as follows:

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This breakdown considers the fate of proceedings filed 18 months ago or earlier, i.e. a subset of proceedings that have reached their final dispositions.

The statute requires completion of the trial within one year of the institution.⁸ But if two or more cases are joined, this one year requirement is removed. Completion is defined by the issuance of the FWD. The Board has never missed this deadline in non joinder cases. In assigning the panels, the Board deliberately staggers the deadlines for each judge so that each judge has a certain number of institution decisions and FWDs due each month. Obviously, if there is non-institution or settlement, these judge work-deadlines can go away. Typically, the FWD is issued right before the one year deadline, but sometimes it issues earlier, especially if there is more than one proceeding against the challenged claims going on at the same time.

Once a FWD is issued, a losing party can appeal directly to the Federal Circuit, or first file a request for rehearing with the Board. The request for rehearing must point out some legal or factual issue that the Board misapprehended or overlooked. There is no set time period for the PTAB to decide a request for rehearing, and typically it takes several months. Some practitioners shun this request option for the tactical reason that the Board may correct a defect in their FWD that would be better preserved for argument at the Federal Circuit, which can reverse the Board's determination or remand the proceeding back to the Board for further consideration.

⁸ 35 U.S.C. § 316(a)(11).

Turning now to the appeal of the FWD to the Federal Circuit. A representative timeline is summarized in the chart below.⁹ As a brief narrative, if neither party requests rehearing and both parties take the full time allowed under the rules to brief the appeal, parties can expect the typical Federal Circuit appeal to take about a year; that is, from the time a notice of appeal is filed to the time the Federal Circuit decides the case. After the Federal Circuit decides the appeal, parties may petition the Federal Circuit for rehearing or seek Supreme Court review.¹⁰

Event	Rule 36 Summary Affirmance	Non-Precedential Opinion	Precedential Opinion and/or Dissent
Rehearing	0 days	0 days	0 days
Notice of Appeal	60 days	60 days	60 days
Certified List	40 days	40 days	40 days
Blue Brief	60 days	60 days	60 days
Red Brief	40 days	40 days	40 days
Grey Brief	14 days	14 days	14 days
Joint Appendix	7 days	7 days	7 days
Calendaring	90 days (varies widely)	90 days (varies widely)	90 days (varies widely)
Oral Argument	30 days	30 days	30 days
Decision	7 days	60 days	120 days
Total	348 or 11.6 months	401 or 13.4 months	461 or 15.4 months

In general, PTAB appeals to the Federal Circuit proceed in the same manner as appeals from district court. The big difference is that district court appeals usually involve more issues than PTAB appeals. For example, the typical PTAB appeal only involves unpatentability and maybe a claim construction issue specific to a single patent, whereas an appeal from district court often involves multiple patents, multiple claim construction issues, validity, infringement, injunctive relief, damages, fee shifting, or some combination, as the case may be. Moreover, the Board enjoys a highly deferential standard of review. While parties can and do appeal legal questions or allege procedural violations, most appeals from the PTAB ask the Federal Circuit to overturn the Board's factual findings, which the Federal Circuit reviews for substantial evidence. This likely accounts for the high percentage of "Rule 36" summary affirmances in PTAB

⁹ The chart below is for purposes of general illustration only. It provides rough estimates based on the default briefing deadlines. It is important to recognize that parties frequently seek and obtain extensions of time during the appeal process. Furthermore, these deadlines can be extended or shortened at the Court's discretion and are therefore not in any way absolute. Nor do these rough estimates take into account self-expedited scenarios where parties file before the deadlines, or time-extended scenarios where parties obtain stays or multiple extensions of time.

¹⁰ The pendency of a petition for panel rehearing or rehearing en banc by the Federal Circuit varies significantly depending on the case. The same is true for the Supreme Court's cert petition review process and briefing schedule. Thus, general estimates are not very informative.

appeals. In contrast, if a party's appeal raises a novel procedural question or an issue reviewed with little deference (e.g., claim construction, obviousness), then the chances of reversal or remand on appeal increase—although the rate of affirmance even on these questions is still high.

Despite a wealth of judicial guidance and significant, precedential opinions delivered by the Federal Circuit in PTAB appeals, as a practical matter the Federal Circuit seldom reverses the Board. As of August 2016, the Federal Circuit disagreed with the Board only 16% of the time, placing the affirmance rate at 84%.¹¹ Of those appeals affirmed by the Federal Circuit, 63% were Rule 36 summary affirmances. This rate sits somewhere between the historically high affirmance rates for inter partes reexamination appeals (70% with 54% of those being Rule 36 affirmances) and ex parte reexamination appeals (94% with 68% of those being Rule 36 affirmances).

When we wrote the first edition of this book we boldly predicted a higher number of proceedings than the Office expected and a concomitant increase in Board appeals to the Federal Circuit. We were correct on both predictions. The number of appeals from the Office to the Federal Circuit has grown significantly since the PTAB proceedings became available on September 16, 2012. As the Federal Circuit's own statistics now show, patent appeals from the Office represented only 8% of the Court's total caseload in FY 2012.¹² In FY 2015, however, this segment increased dramatically to 24%--making up almost a quarter of the Federal Circuit's overall docket.¹³ The Court's statistics show a dramatic increase in the number of appeals from the Office between FY 2013 and FY 2015.¹⁴ Specifically, in 2013, the Federal Circuit's Office caseload was under 150 appeals per year. In 2014, it shot up to almost 250. By 2015, it exceeded 400. Thus, since PTAB proceedings became available, the Federal Circuit has more than doubled its historical caseload of appeals from the Office. And, despite best efforts, the Federal Circuit appears to be developing a backlog as a result. As unofficial evidence of this, the number of cases that are fully briefed but not calendared are significantly up and the Federal Circuit will be sitting an extra day outside of court week in December 2016, presumably to catch up.

¹¹ See *infra* Chapter 15, Section 15:20 (reporting 8% reversal rate and 8% remand rate).

¹² U.S. COURT OF APPEALS FOR THE FEDERAL CIRCUIT, *Caseload Pie Chart (2012)*, available at http://www.cafc.uscourts.gov/sites/default/files/the-court/statistics/Caseload_by_Category_Appeals_Filed_2012.pdf (last accessed, October 26, 2016).

¹³ U.S. COURT OF APPEALS FOR THE FEDERAL CIRCUIT, *Caseload Pie Chart (2015)*, available at <http://www.cafc.uscourts.gov/sites/default/files/Caseload%20by%20Category%20%282015%29.pdf> (last accessed, October 26, 2016).

¹⁴ U.S. COURT OF APPEALS FOR THE FEDERAL CIRCUIT, *Caseload, by Major Origin: Appeals Filed from Five Originating Courts and Agencies for the Last Ten Fiscal Years*, available at [http://www.cafc.uscourts.gov/sites/default/files/the-court/statistics/appeals filed in major origins 10-year 06-15.pdf](http://www.cafc.uscourts.gov/sites/default/files/the-court/statistics/appeals%20filed%20in%20major%20origins%2010-year%2006-15.pdf) (last accessed, October 26, 2016).

With respect to what happens if the Federal Circuit remands to the PTAB, the procedural mechanics remain unclear. Specifically, the Office has not promulgated rules to address how trial should ordinarily proceed after the Federal Circuit remands for further proceedings consistent with its opinion. And this in turn depends on the Federal Circuit's holding. For example, a remand to the Board for failure to articulate its reasoning may not require additional fact finding, or even additional briefing depending on the situation. A procedural violation may be remedied by simply ignoring arguments and evidence to which the prejudiced party did not have notice and an opportunity to respond. In contrast, reversal of the Board's claim construction may or may not require additional fact finding, and any such fact finding may or may not warrant the presentation of additional evidence, which may or may not involve additional cross-examination. And even more complex remand scenarios are developing as we speak. In the few cases we have observed, the Board seems to be exercising its discretion to decide whether further briefing and fact finding is necessary for it to comply with the Federal Circuit's mandate. Which raises the issue of multiple appeals. Another issue is timing. Having satisfied its statutory mandate to complete trial within one year of institution, the Board is seemingly free from time limits on remand. We note that certain remands have taken six months for a decision by the PTAB.¹⁵

2:3 New Global Patent Landscape

At the beginning of this chapter, we opined that the PTAB proceedings have had a fundamental impact on the current patent environment in the United States. When they are coupled with other changes from the courts, the USPTO, and the patent marketplace, the full contours of the impact and the new global patent landscape can be understood. What follows is a summary of significant factors that add up to the new global patent landscape. It is based on hundreds of extensive interviews and several conferences based on these interviews that were conducted by this author and other patent experts from 2014 to late 2016 under the auspices of Thomson Reuters.

In essence, the new global patent landscape is very favorable for freedom to operate in the United States. Competitors of patent owners have a much improved position from what they had before the PTAB proceedings became operational on September 16, 2012. The risk of financial loss due to infringement of U.S. patents is much reduced, and the lack of injunctive relief being available for most patent owners means that competitors can continue in the marketplace while litigating disputes in the courts and through the PTAB proceedings.

These fundamental changes have caught most patent owners by surprise. They did not foresee the impact of the individual changes and how they would operate in the aggregate. Stakeholders of patent owners – such as senior management, boards of directors, investors, stockholders, employees, suppliers, analysts – still do not understand the full implications of the new global patent landscape and how best to manage through it. What follows now is a short

¹⁵ *MotivePower, Inc. v. Cutsforth, Inc.*, IPR2013-00274, Paper 44 (P.T.A.B. Sept. 9, 2016) (receiving Federal Circuit's formal mandate on February 29, 2016); *Ariosa Diagnostics v. Verinata Health, Inc.*, IPR2013-00276 and IPR2013-00277, Paper 64 (P.T.A.B. Aug. 15, 2016) (receiving Federal Circuit's formal mandate on December 23, 2015).

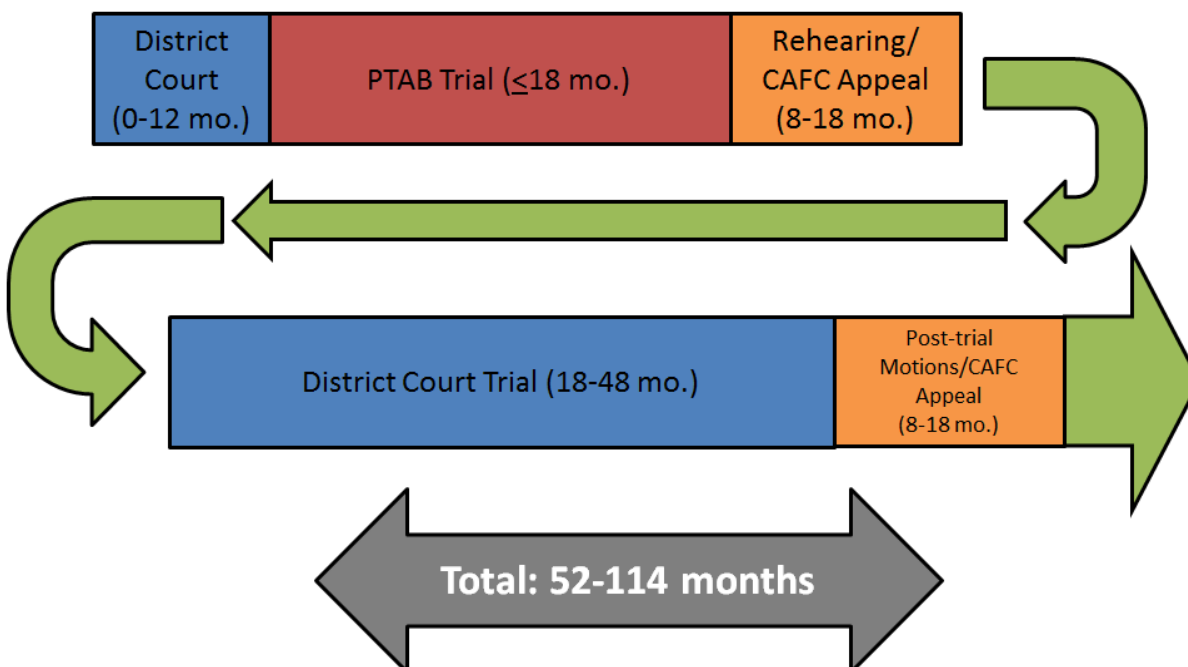
summary of important changes since 2012, their aggregate interaction, and the impact that has created on the new global patent landscape.

The first issue to examine is the current timeline to enforce patents in the district courts. The AIA allows the district courts to proceed with the infringement suit in parallel with the PTAB proceeding examining the patentability of the challenged claims in the patent(s) in suit. However, a majority of district court judges stay the district court proceeding once the PTAB proceeding is instituted for trial. The possibility of stay depends on the district and the court. Representative statistics for stays in important patent litigation districts are as follows:

Forum	Motions to Stay Granted or Granted-in-Part (Includes Stipulated Stays)
E.D. Tex.	60%
D. Del.	72%
N.D. Cal.	79%
All Cases in District Courts	72%

As explained above, the PTAB appeal is typically a two-step process of the PTAB trial followed by the Federal Circuit appeal. The typical time period for the PTAB proceeding is 18 months, and the typical time period for any remand and then Federal Circuit appeal is between 8 to 18 months. If the district court judge stays the district court case pending completion of the PTAB proceeding, under the fastest scenario this adds 26 months to the already long enforcement process in the district court. And the patent owner must prevail in the PTAB proceeding and in the district court in order to enforce the patent. And in most cases, there is no injunctive relief to drive settlement. Set forth below is a timeline showing the impact of the PTAB proceeding on district court enforcement.

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The average pending periods for important district courts involved in a significant number of patent suits are shown in the following table:

Forum	Months from Filing to Trial
S.D. Fla.	13.8
E.D. Va.	17.0
S.D.N.Y.	21.9
W.D. Wis.	23.9
E.D. Tex.	30.9
D.N.J.	34.4
D. Del.	38.4
All Cases in District Courts	34.1

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Looking at this enforcement timeline from a financial perspective, consider the following scenario concerning return on investment for the patent owner to bring a suit in a district court, survive a PTAB challenge through appeal to the Federal Circuit, and then to win the enforcement in the district court, the post-trial motions, and the second appeal to the Federal Circuit. Assume the fastest scenario of around 60 months (5 years), the minimum recovery that would justify this risk/reward is calculated as follows:

$$\text{Min Recovery} = (x \text{ times } y) (P + L)(I)$$

Where:

x = average success rate of patent owner in IPR

y = average success rate of patent owner in district court

P = average cost of IPR through Federal Circuit appeal

L = average cost of district court suit through Federal Circuit appeal

I = yearly time value of money over 5 year period at assumed 4%/year

Assume: x is 20%; y is 50%; P is USD 1M; L is USD 3M; and I over 5 years is USD 500K increase

So USD 45M is the minimum amount of the recovery that the patent owner can have to justify the risk of investing USD 4M in a two stage lawsuit over a five year period assuming the risks involved. In fact, many would argue that this number is a little low because of the other risk factors that could kick in, such as multiple IPRs or CBMs being brought, longer district court enforcement period, more than two appeals to the Federal Court, and post-trial motions.

A minimum recovery of USD 45M to cost justify bringing a patent enforcement action in the district court is a shock to many. But in the current environment, this is not an exaggeration.

Another factor that is having a big impact is the lack of injunctive relief. The eBay decision from the Supreme Court decided in 2006 curtailed the availability of injunctive relief in patent cases.¹⁶ Before that decision, injunctive relief was almost automatic. As an aside, the reported USD 612.5M settlement in the *NTP, Inc. v. Research in Motion, Ltd.* suit was driven by the imminent threat of injunction to turn off the Blackberry system.¹⁷ While the eBay decision did not appear to curtail the availability of injunctive relief in many traditional scenarios, in practice it is hard to obtain today in many patent infringement situations. The patent defense bar

¹⁶ *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

¹⁷ Jennifer Lane, *NTP, Inc. v. Research In Motion, Ltd.: Inventions Are Global, but Politics Are Still Local--An Examination of the Blackberry Case*, 21 Berkeley Tech. L.J. 59, 68 (2006).

is very aware of how difficult injunctive relief is to obtain, and uses it effectively in defense of infringement and freedom to operate situations.

Predictability in the new U.S. patent environment is lacking. Some of the variables have been described, but there are others. For example, settlements are much more difficult for the patent owner to obtain, especially before completion of the PTAB process through appeal. The defendant in many situations has a more economical solution of infringing what it deems an invalid patent while having its attorneys put on a vigorous defense. The cost of the defense is often cheaper in the long run than settling for more than a nominal amount. As discussed earlier, the defendant only has to win once, whereas the patent owner has to win over and over to prevail. Even if the defendant ultimately loses, the overall loss of the defense is less than traditional settlements in the past. In most situations, the threat of injunction is low, especially before the district court has decided the case. And the threat of having to pay enhanced damages is not high for the defendant even under the recent Supreme Court decision in *Octane Fitness*¹⁸. Some in the U.S. patent litigation bar have named this strategy of vigorous defense and never settling as “efficient infringement.”

The value of U.S. patents has dropped significantly in the past five years. The peak of value was around 2012, at the time of the global cell phone and telecommunications patent wars. At the time, many pundits argued that the valuation bubble would continue to go up because patents were essential to operate on the global stage and the U.S. market was the largest. Since then so much has changed, which has caused a dramatic drop in value. Much of the information about valuation is confidential to the parties. But based on anecdotal evidence, it is clear that value is substantially reduced. In electronics, for instance, there are reports of portfolios being licensed and sold at valuations one tenth to one thirtieth of what would have been the norm five years before. This is especially true with patents that have a software component due to the statutory subject matter issues that most likely will arise. And the valuation issues cut across technologies due to the threat of PTAB challenges and long and difficult enforcement paths in the district courts.

The impact of this value drop is just beginning to be understood by decision-makers. For example, many of the most experienced and successful litigation funders have backed off many patent enforcement opportunities that they would have helped fund in the past. This is especially true where the potential recovery is below USD 30M, injunctive relief is problematic, the potential defendant is a large enterprise having a reputation of never settling, the potential venues are slow or not patent friendly, the claims are broad, the prior art is close, the plaintiff is not a practicing entity, the defendant is outside the U.S. and the chances of collecting are problematic, plaintiff trial counsel does not accept the cost and threat of the inevitable PTAB challenge, plaintiff trial counsel is not experienced in the potential venue or does not have a stellar trackrecord of enforcement, the technology is complex and hard to prove infringement or explain to a decision-maker (judge, jury, PTAB panel), the infringing device or method is covered by multiple patents raising a royalty stacking damage issue, etc.

¹⁸ *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S.Ct. 1749 (2014)

Patent owners often do not have the financial or management resources to prevail in this patent adverse environment. The investment is high, the risk is high, and the potential recovery may be pyrrhic. Law firms, which previously might have entertained taking the district court litigation on some type of contingency, are skittish. And the additional time, risk, and cost of the inevitable PTAB challenge, especially if the district court case is stayed, often is the deal-breaker. Recently, one general counsel of a large multinational practicing entity said that he would rather take USD 5M to Las Vegas and bet it on the roulette wheel than fund and staff a patent enforcement action. And the action he was referring to was against his main competitor in the product space!

The adverse impact on funding of startups and research and development is growing as this new U.S. patent landscape is better understood by the venture capital (VC) community. It is a sine qua non in the VC community that a gating function in investing in an enterprise is that it have adequate patent protection to protect the investment. And when the inevitable future rounds of funding or the liquidity event for the enterprise occurs (initial public offering, sale, merger, acquisition), the valuation is often driven significantly by the perceived value of the patent portfolio. Now that U.S. patent values are significantly down in many technologies, this is having a ripple effect on what is funded and at what level of valuation.

It is often said that small entities and universities are doing a significant amount of the R&D in many industries as the larger enterprises have backed away from this risky activity. The larger enterprises often use these risk takers as their de facto R&D effort and acquire the winners to fuel their growth and profitability. The adverse impact on R&D in the U.S. is being predicted by some as a natural outcome of this new U.S. patent environment. There is an inevitable time lag of years for the impact of the new U.S. patent environment to be quantifiable, but some pundits predict a significant drop in critical R&D in the most important new areas of technology. This could have a deep and far ranging impact on societal, industrial competitiveness, and national security issues.

Foreign competition is building in all areas of the U.S. economy. This is being driven by consolidation in many industries and the proliferation of low cost producers on the global stage. Size and location matter. Smaller U.S.-based practicing entities are at a distinct disadvantage on this global stage. But in many industries it is these U.S.-based practicing entities that form the backbone of making the U.S. market the biggest and most important in the world. The new U.S. patent environment makes it significantly harder and more problematic for these smaller entities to protect their markets, revenue, and profitability. Industrial history shows that once an industry is lost, it is very hard for a nation to get it back. The implications of this trend are just beginning to be understood and addressed.

Universities are particularly vulnerable. Traditionally they could rely on their U.S. patents and the rules and norm of the marketplace to be able to finance their R&D, often fundamental, and drive this technology into the commercial marketplace. This has changed dramatically. Large enterprises, particularly in certain industries, give universities no more respect that they do to other non-practicing entities. Universities are loath to litigate for many legitimate reasons, and the infringers know this. There have been at least 75 PTAB proceedings

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filed against universities with at least 28 universities being the patent owner of the patents being challenged. Very few universities have been successful in enforcing their U.S. patents in recent years, and there is a developing gloom in the U.S. university community that the new U.S. patent environment has fundamentally let them down. If true, then all will suffer in the long run as infringement increases and university funding dries up.

The importance of trade secrets is growing, in part due to this new U.S. patent environment. As patent owners realize the new risk/reward calculus of U.S. patents, they are increasingly turning toward trade secret protection, if available. For example, in software and big data technologies, increasingly the code and data are being protected as trade secrets. Cloud-based computing has been a big driver along with open source software. The public loses with this trend in terms of the Constitutional goal of promoting progress in science and the useful arts because there is no public disclosure of technology when a trade secret is substituted for a patent. Global theft of trade secrets, particularly the most valuable and strategic, is rampant, and it is reported in the press that cyber-warfare is prevalent. Some experts say that nothing is safe from hacking on a networked computer system, and even stand-alone computer systems can be hacked and destroyed through clever cyber stealth.

The defense bar counters all of this by saying that the new U.S. patent environment is a much better balance than the old because it permits cost-effective and efficient freedom to operate and does not allow unscrupulous patent owners and their professionals to game the U.S. patent system for improper financial and commercial advantage. They argue in many forums that the “sky is not falling” in the U.S. patent system, that the changes wrought by the recent decisions by the courts, USPTO, Executive Branch, AIA, and adverse public opinion about the U.S. patent system are exactly what is needed. They argue that U.S. innovation is at an all-time-high, that there is no lack of VC funding, that in order for U.S. titans and unicorns to operate on the global stage they must have this new environment, and that it is “sour grapes” complaints by U.S. patent owners who have failed in the marketplace that is driving this criticism about the new U.S. patent environment. In fact, they counter that the goal of the new PTAB proceedings of being “faster, cheaper, and better” than the courts has been dramatically obtained because all of these goals have been met by these new proceedings. They point out that the PTAB statistics show that many patents being litigated are in fact invalid when tested by the expert judges at the PTAB and confirmed by the Federal Circuit. In essence, all is good, and the U.S. patent system is now working in the fashion it should. The abuses of the past have been reduced, and legitimate competition has been fostered.

Who is correct? Clearly it depends on which side you are on. If you are a legitimate inventor/innovator, you are not being treated fairly. Conversely, if you are a legitimate competitor you were at a disadvantage in the past. The U.S. patent system is still not where it needs to be to encourage these competing objectives. More needs to be done to achieve a better balance, and thus further change needs to be done now, otherwise serious damage to the U.S. economy could occur.

The U.S. market is the world’s largest, but its percentage of the global market is shrinking. In fact, China is now the second largest global market, and the European Union is the

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third. So what are the implications and consequences of the new U.S. patent environment on these two global markets?

Turning first to the EU because it has a more established patent environment with a long track record, the interaction between the U.S. and the E.U. on patents is fundamentally important for the global marketplace. The recent Brexit decision by UK voters has created significant implications for the traditional EU patent environment that has evolved over the past 40 years. Before Brexit, the long-considered Unified Patent (UP) and the Unified Patent Court (UPC) was scheduled to become operational in early 2017. In fact, London is one of the three primary venues in the UPC with the court focused on pharmaceuticals, and the UK has acquired a building for the court, has started recruiting judges, and is developing the software for the entire UPC system of 28 countries. Before the Brexit vote, both Spain and Italy had not signed the UPC treaty, but after the Brexit vote, Italy indicated that it would join and offered Milan as a new location for the pharmaceutical court. France has already signed and Germany was going to sign to make the UPC go live. As the top three patent filers, Germany, UK, and France are the required signatories for the UPC to go live. The Brexit vote has changed this and it is unlikely that the UK will sign the present treaty. The outcome of this is that Brexit will prevent the UP and UPC from going live in 2017.

When we interviewed leading UK patent experts just prior to publication of this book, we were told that the UK's refusal to join the UP/UPC will probably delay the new pan-European regime of patents and patent enforcement for many years to come, if not permanently. The thinking is that variations of the UP and UPC have been considered for decades, and the interest and impetus for its final implementation are the EU bureaucrats in Brussels. Politically it would be difficult for the present pro-Brexit government under Prime Minister May to allow the control of UK patents and patent enforcement to move to an EU-wide legal regime; in fact, one of the main impetuses for Brexit is a pull back from EU-wide legal regimes. And since the UK is the second largest filer of patents in the EU, UK refusal to join is a severe blow to timely implementation of the present UP/UPC framework.

After interviewing UK experts, we then interviewed German experts in Munich and Dusseldorf, two of the top three patent enforcement locations in Germany (the other is Mannheim). They tell a different story. The prevailing German view is that the UP and UPC will move forward, albeit in 2 to 5 years, but it is far from dead. The view is that Brussels is now determined to show the UK and the world that Brexit is not going to be allowed to defeat a pan-European legal regime of such EU importance and after so many years of investment. It is hard to tell what will happen at the time of publication of this book.

Interestingly, both the British and the Germans commented that there was less industry and patent professional support for the UP and UPC than from the EU bureaucrats in Brussels. Industry, particularly when very valuable patents are involved, is scared of the UP and UPC because a loss of rights would be over all signatory countries and not just at a national level. Without any track record of performance, many owners of such patents were going to avail themselves of the opt out provisions that exist for the first eight years. Moreover, patent professionals were troubled not only about being unable to predict what was going to happen to

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their client's most valuable patent rights, but also for parochial reasons around loss of work. For now, with at least a two-year delay occurring, it is important to review the current patent landscapes in the new EU-27 market and the new UK market, and examine how they interact with the new U.S. patent environment.

Turning first to Germany, it is and has been since before Brexit was voted on by UK voters, the most important and most used patent enforcement venue in the EU. This is based on several factors. First, European Patent Office (EPO) patents designating Germany and German patents can be enforced in the German courts in an efficient manner. Second, any one of the 12 regional courts in Germany are venues for patent enforcement, but due to judges who specialize in patent cases, enforcement is localized in the Dusseldorf, Mannheim, and Munich regional courts. Each of these three regional courts is different in the time it takes and other aspects, but each has chambers that focus on patent enforcement. As the chart below shows, Germany accounts for a significant percentage of patent enforcement in the EU with more than 25% of all of the cases being brought in the Dusseldorf court.

German Civil Courts within Europe – Complaints Filed

Member State	2011
DE	1250
FR	280
IT	260
GB	53
NL	50

- Each year about 2000 patent infringement cases are filed in Europe.
- About 62 % of all cases are handled by German courts.
- Germany by far the most popular forum for filing patent infringement suits in Europe.

Source: Enforcement of patents in the EU, OJUR 2013, 592

The German regional courts determine infringement. Since there is very little discovery in the German enforcement regime, the specialized judges move the cases rapidly. It is not uncommon to have a decision on infringement in 8 to 18 months depending on the judge and the court. The litigation is done on the written record with a final hearing before the judge that lasts only several hours. The judges, though they do not have technical training, typically conduct the hearing in a very focused fashion zeroing in on the key issues needed for decision. Some judges prefer to handle patent cases, and for this reason are sought after with many lawsuit filings, creating an expertise and track record similar to the patent-active courts in the USA. The judge typically renders the written decision within a week or two and injunctive relief is typically available, even for non-practicing entities. While Germany has a loser-pays attorney fee and cost regime, the attorney fees are capped depending on the value of the case. Since the cost of

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German patent enforcement is much lower than in the U.S., this threat of paying the attorney fees of the winner is much lower.

Fourth, the defendant can file a nullity action against the asserted patent in the Federal German Patent Court in Munich. This court is staffed by legal and technical judges from the German Patent Office. The nullity proceedings typically take 12 to 25 months to complete. The success rate for patent owners is one third of the claims are found valid, one third of the claims are amended during the proceeding, and one third of the claims are cancelled. One big difference from the new PTAB proceedings is that claims can effectively be amended during the nullity proceeding.

Fifth, the separation of infringement and possible claim amendment and injunction in the regional court case staggered later in time by a nullity case in the German Federal Patent Court creates in many cases the so-called “injunction window.” The injunction window means that the judge in the infringement case enters an injunction pending completion of the nullity action. The window is typically between 12 and 30 months and acts to force settlement even though reasonable royalties are typically the only damages available to the patent owner.

All of this is why the German system is viewed as patent friendly by a growing number of patent experts worldwide. It is very fast compared to the U.S. system, acts to preserve the rights of patent owners through claim amendment rights during the enforcement proceedings, is low cost, and is predictable. Consequently, patent rights are relied upon by German industry, particularly small and medium size manufacturing entities that form the backbone of the German economy. According to many experts it accounts for how Germany has been able to allow patent owners to legitimately police the commercial marketplace while shielding German industry and entities operating in Germany from unfair competition and predatory low cost producers.

The threat of an injunction in Germany is a strong driver for an EU-wide settlement. Germany is the largest and richest market in the EU. Though the injunction does not extend beyond Germany, as would be the case if the UPC was operational, the loss of the German market would be so substantial in many situations as to be tantamount to an EU injunction.

However, it is not uncommon to see multi-country patent enforcement in the EU that goes beyond an action in Germany. The most popular alternative EU countries are the Netherlands and France. It is expected that patent litigation will increase in these venues even if the UPC becomes operational. The coordination between these venues is an important aspect of success for each side because there are famous examples where patent rights are enforced in some EU countries where suit was filed and not in others.

Turning now to the UK, it must be understood that its membership in the European Patent Convention (EPC) that runs the EPO is not impacted by Brexit. So EPO patents designating the UK will still be available and can be enforced in the UK courts. Additionally, UK patents from the Intellectual Property Office of the United Kingdom (IPO) can be obtained as well. The IPO is getting high marks for the quality of search, the speed of examination, and the standards it is applying to determine statutory subject matter and level of invention. The UK courts have

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limited discovery and court trial takes one to four days. Specialized barristers argue cases in the courts for the higher damage suits. The cost of litigation is higher than Germany, but much less than the U.S., and the UK is no longer viewed as being hostile to patent rights. The UK has a robust startup community that relies on patent rights as do larger enterprises. With the UK market being the second largest in the current EU, it is safe to assume that including the UK in a global patent strategy will be very important post-Brexit.

In summary, while patent rights have declined in the US, they have not declined in the EU. Germany is now more patent friendly than the US and the UK appears to be in that category as well.

Regardless of Brexit and the UP/UPC, the EPO will continue to be the main vehicle for patent protection in the current EU. While country patents can be obtained in one or more of the countries in the EU, which is a prudent strategy for a patent owner in certain circumstances, the EPO patent will be the patent of choice for protection in EPC member countries with smaller economies. Until recently, the EPO was considered to have narrower definitions of statutory subject matter, stricter standards of invention, and a more complex and cumbersome examination regime. This is no longer the case. In terms of statutory subject matter, the EPO is now regarded as more expansive and easier to navigate. The inventive step requirement seems more predictable and rational than the obviousness standard in the U.S. The quality of the EPO search is considered by many experts to be better on average to the U.S. search. The criticisms are still that the EPO is very expensive and it takes a long time to get a patent examined and through the opposition procedure. But with the EU as the third largest economy, the importance of the EPO patent for a global patent strategy will increase.

Turning now to China, which is the second largest economy globally, the pace and extent to which the State Intellectual Property Office of the People's Republic of China (SIPO) and the Chinese court system have implemented the Chinese patent system is nothing short of amazing. The level of filings of Chinese patents continues to grow and is exceeding that of the USPTO and the EPO. Many patent practitioners outside of China have no real understanding of what is going on in the Chinese patent environment. But this must change, because the impact of the Chinese patent system on the global patent landscape in the next five years will be profound. The Chinese patent system and the SIPO was modeled after the German patent system when it was created in the 1980s. In fact, the German Patent and Trademark Office (abbreviated DPMA from Deutsches Patent und Markenamt) trained the initial examiners of the SIPO. The definition of statutory subject matter is more akin to the standard in the EPO than in the U.S. Invention is determined more along the lines of inventive step in the EPO. Court enforcement of patents can be attempted in courts around China. But the effectiveness and predictability of result varies widely and there is concern that some courts favor Chinese parties over outsiders.

Turning now to what are the optimum strategies for a patent owner in this new global patent landscape, there are nine paths forward that deserve special consideration.

First, with regard to patent protection, the emphasis must be on quality patent applications and prosecution – not on the number of patents. This strategy recognizes that the

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innovation that produces the most return on investment must be protected with the best patent protection possible. Lesser innovation may warrant less patent resources devoted to it because the probability for enforcement and monetization is less. For the most important innovation, the specification must be drafted to optimize protection in the three biggest global economies, even if the application is not filed in all three. No longer is it advisable to draft the base patent application just for the U.S. requirements, as has been the norm for years, especially for U.S. based innovators. A detailed specification is required that has intermediate description of the invention and not just a high level description and the actual embodiments. This disclosure may be essential if amendment of claims is sought, especially with the strict requirement for specification support in the EPO. Claims sets must be carefully architected to take into account the different rules and approaches in claiming among the jurisdictions. Knowledge of the limitations of claims and claims types and fees charged for excess claims, if allowed, must be used to optimize the claim sets for each jurisdictions. With statutory subject matter being a significant issue in the U.S., it may be that the patent owner will obtain more significant patent protection in the EPO and SIPO. Thus, the base case must be drafted to optimize success for statutory subject matter eligibility for all three jurisdictions. Since the UK follows the EPO on the statutory subject matter issue, drafting for the EPO probably will be sufficient for most cases, although drafting for the now-narrower standard in the U.S. will also be beneficial across jurisdictions.

Second, the scope and content of the prior art must be assessed as early as possible before large government fees and attorney costs are incurred. An initial detailed search may be warranted before the patent application is filed. This will assist in the drafting of the base application. Different patent offices produce different levels of search quality and the timing of providing the search results varies. The choice of which patent office to do the search and when it is critical in maximizing the ROI in the patent portfolio.

Third, the speed at which prosecution proceeds to grant varies over a wide spectrum. Fast track patent examination should be sought in the key jurisdictions if the innovation is going to market soon and the product life cycle is short. Various patent offices have special options for expedited prosecution either based on their own procedures or the global patent highway available when one application is allowed quickly. These often produce better examination because the examiners treat an application allowed in other jurisdictions with deference. Having the patent in hand when the infringement starts puts the patent owner in a superior position to stop the infringement.

Fourth, most patent offices charge maintenance and annuity fees to maintain applications and to maintain issued patents in force. Yearly review of these fees is critical because significant savings can be had by abandoning or selling applications or patents that are of low value.

Fifth, fast track enforcement of patents with a high probability of success, at low cost, and with appropriate remedies that include injunctive relief is of top concern. Clearly, if the EU is an important market, the German courts should be considered using either German patents or EPO patents that designate Germany in the national phase. The Netherlands and France should be considered to augment the German enforcement. China may have certain fast track

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enforcement options, but very experienced counsel is essential. In the UK, the ROI of enforcement must be carefully evaluated and no blanket rule of thumb exists. Finally, in the U.S. careful consideration of the United States International Trade Commission (USITC) must be made. This is in addition to or in lieu of enforcement in the district courts. If the infringement is tangible products coming into the U.S. and the patent owner has sufficient U.S. presence to satisfy the domestic industry requirement under 15 U.S.C. § 337, then the USITC may be the superior forum for enforcement. The USITC has a mandate to conduct their investigations with special dispatch. Often it takes less than a year from institution of the investigation to the completion of the hearing. No counterclaim can be brought and the USITC typically does not stay for PTAB challenges. While there is no damage relief available, exclusion orders are, and this remedy is a great settlement tool for the complainant patent owner. Unlike the current timelines in the district courts, the USITC offers very speedy enforcement for patent owners where the infringement is importation of tangible products into the U.S.

Sixth, enhancing the ability to withstand the inevitable validity attack on the patent in enforcement litigation must be done when the patent is procured or through reissue practice. This can involve making sure all of the most pertinent prior art is of record. It may also involve introducing evidence into the prosecution record that supports patentability – inventor or expert declarations. In the U.S. this would involve secondary objective indicia of non-obviousness and lack of combinability evidence available during the prosecution timeframe. In the EPO this may involve how the opposition defense is handled by the patent owner. If the preferred fast track prosecution options are used, there may be opportunities to enhance the prosecution record to immunize against validity attack. While the PTAB currently does not accord much deference to the U.S. prosecution record, it is quite possible that this will change. Much benefit can attach by enhancing validity wherever possible.

Seventh, design patent protection and enforcement must be considered. If trade dress protection exists, this additional legal mechanism to enforce rights must be considered too. These types of soft protection may be the only viable options because utility patent protection may not be available or enforceable.

Eighth, trade secret protection and copyright protection must be utilized. Significant trade secret legislation has been enacted in the U.S.¹⁹ and in the EU²⁰. While this new trade secret enforcement is just beginning to be tested in the courts, innovators should engage in self-help to protect their trade secrets. In this highly competitive global marketplace, innovators should be very concerned about trade secret theft and cyber security attack.

¹⁹ Public Law No. 114-153, May 11, 2016

²⁰ Directive (EU) 2016/943 of the European Parliament and of the Council of June 8, 2016 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure

Ninth, and most important, be an expert on the new global patent landscape and how it operates in and between major markets. Study all changes and trends and focus on future developments. This is an on-going professional endeavor that will pay great dividends.

Turning now to what are the optimum strategies for a legitimate competitor in this new global patent landscape, there are nine paths forward that deserve special consideration.

First, the patentability/validity challenge procedures available in the various patent offices are the best tool to provide freedom to operate and to minimize infringement risk and associated damages and costs. This requires a deep understanding of the available procedures, the monitoring of the patents of certain competitors, the proactive threat and use of these procedures against patent owners, and the use of these procedures when actually sued. These procedures are almost always cheaper and more effective than defending against patent litigation; and if stay of such litigation is available and obtained, it can effectively terminate the litigation if successful. These challenges must be done with the utmost care and skill to achieve the desired result, but if successful, will likely be the most cost-effective solution. Litigators often shun these procedures because of their impact on the ability to litigate, but those highly skilled in patent office litigation know the power of the procedures. This is one of the most significant changes that has occurred in the global patent landscape and has fundamentally changed the value of patents.

Second, build or buy a strong patent portfolio that covers your major profit centers and in certain circumstances those of problematic competitors or potential hostile acquirers. Patents have dropped in value globally, and emerging market leaders are increasingly acquiring significant patent portfolios of former market leaders who are monetizing their unused portfolios. Patent aggregators and brokers may be a source of patent acquisitions for prices that are substantially lower than historical value. But don't overpay or buy the wrong patents. At the 2012 peak in the cell phone wars, standard essential patents were considered the most valuable because infringement was not an issue if the standard was being practiced. Now, due to U.S. and EU anti-trust and access-to-standards rulings, coupled with very low reasonable royalties, these patents have very low value. The same applies to patents that have significant statutory subject matter issues.

Third, do not overpay in settlements, licenses, or acquisitions. The price of U.S. patents has dropped significantly, especially in certain technologies. Hard data on value is difficult to obtain because much is not public. Valuation professionals often are behind the marketplace because many settlements are occurring without court filings or expert testimony. In house counsel often are also not current in their knowledge. Litigation counsel may also not be current because they may be handling only a handful of on-going litigations. Seek informed expert advice and use it to maximum advantage.

Fourth, if sued seek out the other defendants as soon as possible. It may be possible to pool resources to offer a joint defense using the patent office challenges. There are organizations that use these procedures against asserting patent owners on behalf of members of a particular

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technology space; this is typically done on a subscription basis. Investigate this option if available. But do not forget to protect your situation with expert counsel to maximize your result.

Fifth, understand the new economics of the global patent landscape. As the timeline and hypothetical ROI calculation discussed previously shows, the economics of district court litigation in the U.S. has changed dramatically. This accounts for a drop in district court litigation in the U.S. and a significant reduction in settlement amounts. Germany only has reasonable royalty damages, and while the threat of injunction is significant, the negotiated settlement may be lower for the competitor who knows the new global economics. Typically, settlements are global if the competition is global, so knowledge of the economics helps in obtaining the best result.

Sixth, seek out counsel who are expert in all of the three patent aspects of a market: patent procurement, patent office challenge procedures, and patent litigation. Strong technical knowledge is also essential for superior results. If present counsel lacks in one or two areas, augment the team with experts in those areas.

Seventh, master the trade secret, design patent, and product configuration aspects of the new global landscape and take full steps to obtain benefit from them.

Eighth, if you are a manufacturing entity up against another such entity, utilize the best offensive and defensive strategies since you are on both sides of the "V," so to speak.

Ninth, and most important, be an expert on the new global patent landscape and how it operates in and between major markets. Study all changes and trends and focus on future developments. This is an on-going professional endeavor that will pay great dividends.

As is now apparent, an investment in knowing what is happening and the best strategies to pursue in this new global patent environment offers great benefit to the patent owner and the legitimate competitor.

The global political landscape has changed dramatically in the second half of 2016. The EU with immigration, Brexit, and changes of government in many member countries. The election of Donald Trump as the next U.S. president caught liberal internationalists by complete surprise. China and Russia are emergent superpowers. The Middle East is in great turmoil. Younger generations have beliefs and aspirations that often differ from earlier generations. The winds of frustration and change are everywhere.

The global patent landscape plays a fundamental role in governing innovation and the return on investment for change in all technologies. How the major markets treat these issues ripples worldwide. Increasingly, meaningful jobs are becoming the central issue for a large number of people. Economic success is flat or dropping for many in the major markets. Investors seeking significant rates of return are investing in markets most attractive for financial return. Low cost producers are using low cost labor and taxes to attract R&D and manufacturing. Electronic communication has reduced geographical and time barriers. Economy of scale and political power allow the largest enterprises to dominate global markets. Smaller enterprises

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increasingly are being squeezed for profits and protection of the markets. Governments are being pressured from all sides and powerful political leaders are changing democracies and other political systems. And public opinion about patents varies widely.

The U.S. patent landscape is now very attractive for competitors and somewhat hostile for patent owners. EU-27 and UK patent landscapes are more in the middle. China is unpredictable. Other markets are across the competitor/patent owner spectrum.

The patentability/validity of the U.S. patent is at the center of this global patent landscape. This book is totally focused on this essential topic and builds on its first edition predecessor, which published only four years earlier. We hope this edition provides an expert guide as you navigate this topic in the new global patent landscape.

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